

SIGMA-DELTA MODULATOR USING A PASSIVE FILTER

ABSTRACT OF THE DISCLOSURE

A sigma-delta modulator includes a discrete time circuit that receives a digital feedback signal and an input signal, where the input signal includes information and one or more analog input currents. The discrete time circuit converts the digital feedback signal into an analog feedback signal during a first discrete time and sums the analog feedback signal and the one or more analog input currents during a second discrete time to yield one or more summed signals. A continuous time circuit includes passive elements, is coupled to the discrete time circuit, and operates to filter the one or more summed signals using a first-order filter and a second-order filter in order to generate one or more filtered signals. A quantizer is coupled to the continuous time circuit and generates the digital signal using the one or more filtered signals, where the digital signal comprising the information.